

Beginners Guide to Starbases (POS)

Hello, I've (ISD Zhuge Liang) written a guide for anyone wanting to know the basics of POS, Ice Mining, Mo mining, Moon Surveying. It's by no means a complete or in depth guide, just something for those wanting to learn a little about this side of EVE.

Any corrections or questions can be posted in [this thread](#).

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1. Player Owned Starbases

[1.1] What is a POS? 'POS' is officially short for **Player Owned Starbases**. Although it refers to many structures, the acronym amongst the player base usually refers to a single complete base made up of many structures. (E.g. XYZ Corp's POS).

Players in starting NPC corporations cannot have a POS. To anchor a POS in high sec space you will need to buy a consumable item call Starbase Charters from the faction of where your POS resides in.

E.g. Minmatar Starbase Charters license you to run a POS in minmatar sovereign space. POS's anchored in 0.4 systems and below do not require starbase charters.

[1.2] Structures available and what do they do

There are many structures available to help you to build and customise your POS base. You can buy the structures on the market, transfer them to your POS via a hauler and set them up. Each structure has a specific purpose and plays an important part of your bases operation and enhances its capabilities. Structures must be anchored at you POS and brought online via your Control Tower before they are operational. Here are the different POS structures:

[1.2.1] Control Tower The [Control Tower](#) [CT] is the main hub of any POS, nothing can operate unless the Control Tower is online. The Control Tower is used to anchor all other structures around it and manages their operation. The CT also governs the rules of how your POS defends itself against other corporations and determines who is allowed within its shields and who is locked out.

Just like your ship has a limited amount of powergrid and cpu, the same applies to Control Towers. Each POS structure takes a certain amount of powergrid and cpu which is deducted from your CT's total, so you have to bear that in mind when building your base.

[1.2.1.1] Types of Control Tower: There are 4 flavours of the Control Tower -one for each race. Each control tower has its own unique racial bonuses.

[Minmatar Control Tower](#)

[Caldari Control Tower](#)

[Amarr Control Tower](#)

[Gallente Control Tower](#)

Control Towers come in two smaller sizes to fit your corporations needs: Medium and Small. Medium CT's use half the fuel of the normal but have less shields, grid and cpu, meaning less defence and less structures that can be anchored around it. The Small Control Tower uses 1/4 the fuel of a normal but again has even less shield, grid and cpu.

You will need to decide what size control tower best suits your needs. If you are an NPC hunting corp who rarely visit 0.0 but would like to operate out of there occasionally, then a small Control Tower is good for you. If you are a PVP corp that need an outpost to safespot, reload, change ship or generally operate out of, then a Medium may be better for you. If you are an industrial corp that is into to heavy 0.0 mining or moon mining then a normal large CT would be best for you.

[1.2.1.2] Control Tower Features: When a Control Tower is online, it emits a force field around it as a shield. If a player is not in your corporation or does not have a password then they cannot enter the shield. The shield looks like a big blueish bubble and completely surrounds the Tower. The strength of the shield is dependent on the Control Tower's race and size.

For a normal (large) Control tower this can be anything up to 50 million hitpoints, which as you can imagine, will take nothing less than a hundreds of battleships pounding it for hours to take it down. When the shields are down to 25% your POS will enter Reinforced Mode. This is a mode where your POS consumes fuel at a very high rate to withstand any further damage. Reinforced mode is automatic but will only happen if you have Strontium clathrates ([ice product](#)) in your fuel storage once there is no more Strontium left, your CT will continue taking damage until it is destroyed.

As stated earlier, the Control Tower is used to manage all other structures - this includes turrets and launchers you anchor to protect your base. The Control Tower can be set to fire on anyone based on standings, their standings to your corporation or whether they fire on you or the POS. There are also options to set a password so friendlies can pass through your shields and have safety within its field. Enemies cannot target you if you are within the shields of your POS. They can only target the Control Tower.

[1.2.1.3] Anchoring your Control Tower · Jettison your tower (for your corp) · Right-click on the tower · Click 'Anchor Structure' · Position the tower by holding and dragging the arrows · Right-click on an arrow once you're happy with the position · Click 'Anchor Here'

Anchoring takes time, bear that in mind if in a potentially hostile system.

Once you have anchored your tower, you should set a password for it for access. You will also need to enter that POS password on your ship. The password option is mainly used to allow non-corp/alliance members to pass through the shield.

Note: You have two tick box options, allow corp members and allow alliance members. This will allow both to pass freely through the shield without the need for a password.

[1.2.1.4] Setting a Password on Control Tower and your Ship · Right-click on the Tower · Click 'Set Password' · Right-click on your ship · Click 'Enter POS Password'

After you have a password set, you should add fuel to your tower (next section). You can begin the onlining process once you have fuel.

Onlining the tower:

- Right-click on the tower
- Click 'Put Online'
- Wait patiently (30 minutes)

[1.2.1.5] Fuel Requirement A Control Tower runs on fuel. The fuels needed to keep a Control Tower online are trade goods and ice products. Your Control Tower has limited space for you to place these fuels in. The fuel units are consumed every hour (Medium CT: every 2 hours, Small CT: every 4 hours).

Trade goods needed per hour:

- Enriched Uranium: 4 units
- Oxygen: 25 units
- Mechanical Parts: 5 units
- Coolant: 8 units
- Robotics: 1 unit

Ice Products needed per hour:

- Nitrogen Isotopes: 450 units (used by Caldari towers only)
- Helium Isotopes: 450 units (used by Amarr towers only)
- Oxygen Isotopes: 450 units (used by Gallente towers only)
- Hydrogen Isotopes: 450 units (used by Minmatar towers only)

- Liquid Ozone: 150 units (Control Tower's CPU usage)
- Heavy Water: 150 units (Control Tower's power usage)
- Strontium Clathrates: 250 units ('Reinforced Mode')

[1.2.1.6] What are the fuels specifically used for? · Enriched Uranium, Oxygen, Mechanical Parts, Coolant, Robotics: Used to power your Control Tower, without it, you cannot bring your tower's power online.

- Nitrogen Isotopes, Helium Isotopes, Oxygen Isotopes, Hydrogen Isotopes: Used to power your Control Tower. The type you need, will vary depending on the type of tower.

- Liquid Ozone: Used to fuel power generation for all of the structures plugged in to your Control Tower.

- Heavy Water: Used to fuel CPU generation for all of the structures plugged in to your Control Tower.

- Strontium Clathrate: Used to fuel your POS's "Reinforced Mode". The more fuel you have, the longer your Starbase can remain in this invincible mode, which means it can withstand an assault longer.

Whilst you can obtain trade goods easily off the regional markets, Ice products must be mined or bought from other players.

Please See [Ice Mining](#) section.

[1.2.1.7] Adding fuel to your control tower

- Right-click on the tower
- Click 'Access Fuel Bay'
- Drag and drop the Isotopes, Heavy Water and Liquid Ozone you purchased along with the other necessary robotics, mechanical parts, enriched uranium, coolant and oxygen.
- Right-click on the tower again
- Click 'Access Strontium Bay'
- Drag and drop the Strontium clathrates into this bay.

POS's do not refuel themselves, they only take what's available inside the resource storage part of the of the CT. If a specific fuel like Liquid Ozone has run out, then your structures will start to go offline. Don't just shove tons of fuel in there, balance it out so everything has roughly the same amount of days supply.

If you run out of Isotopes, your whole Control Tower will go offline, shields will drop and you will be a sitting duck. This is precisely the reason why fuel is such a critical issue and should be the most important thing to take into consideration when planning your base. Ask yourself if your corp can mine/buy the required fuel regularly, how many members can have mining barges? Do you have easy access to ice belts?

Always mine in advance, have 1 months supply stored in your Corporate Hanger Array at the POS. If you mine on the spur of the moment whenever you need fuel you will fall behind and risk putting your base at risk to open attack.

[1.2.2] Refining Arrays Refining Arrays (better known as Mobile Refineries) allow you to reprocess ore at your POS in space similarly as you would do in a station. You load the Refinery with the ore (only one ore type is allowed in the refinery at a time). Once loaded you right click the Refinery and start the process, unlike stations, the process is not immediate. You have to wait between 1 and 3 hours before the contents of the Refinery are changed into minerals.

There are currently two types of Mobile Refinery.

Refining Array: 35% refining yield. (1 Hour) Intensive Refining: upto 75% refining yield. (3 Hours)

[1.2.3] Corporation Hanger Array The Corporation hanger allows you to store anything you want. When opened, the layout and naming of the hangers is exactly the same as your corporation office or HQ hangers. Although limited in space, there is more than enough to store ore, mods and loot.

[1.2.4] Ship maintenance Array The Ship Maintenance Array structure allows you to store ships inside it. When you store your ship inside it, it ejects you outside in your pod. You are safe because you are still within the shield of your POS and cannot be targeted. The Array also allows you to change your modules in space. To do this, move within 3000m of the Array, ensure no other ships are near. Have the modules you wish to change already in your cargo hold. Simply drag the module out from your low/mid/hi slot panels into your cargo bay and drag the modules you do want from your cargo hold into the slots. Online the modules and you're all set!

The process of refitting an entire ship can take a while as you need at least 95% cap to online a module. Many corps keep a cruiser or battleship specially fitted with energy transfer modules to help boost the fitting ship's cap so it can online modules quicker. You will need to go outside your POS shield bubble to target the other ship for an energy transfer.

[1.2.5] Moon Harvesting Arrays Moon Harvesting Arrays are structures, which, when set up correctly will extract raw materials from the moon you POS is anchored at. Depending on your configuration, the Harvester Array will pass the materials onto a Reactor Array for reaction or will store them in a Silo.

[1.2.6] Silo Silos are used to store Raw Materials, Processed materials, Advanced Materials or Minerals. A Silo can only hold one type of material inside it at a time and must be put offline to change type or to empty it.

[1.2.7] Coupling Array Coupling Arrays act as an intermediary holding pipe between two structures. Take for instance the Moon Harvesting Array and Silo. If you want to empty your silo you have to offline it, this may cost you to lose a cycle of raw materials. By placing a Coupling Array between the Harvester and Silo, you can safely offline the Silo while you empty it and any Raw Materials that arrive will temporarily be stored in the Coupler Array.

The Coupler Array is also useful for when the Harvesters and a reactor are running/processing at different speeds. I.e. Two Harvesters may produce 100 units each an hour. The Reactor may only be able to process the said units every 2 hours. This leaves you with a 100 surplus which will be lost in the process. A Coupling Array acts as a buffer to temporarily hold the surplus materials until the Reactor is free.

[1.2.8] Shield Hardening Array Similar to Shield hardener modules, Shield Hardening Arrays increase your Control Towers shield resistance to certain damage types. There are 4 types of Shield hardening Arrays covering each type, Kinetic, Explosive, EM and Thermal.

[1.2.9] Electronic Warfare Structures You can have Warp Scrambler, Warp Disruptor, Sensor Dampening, Stasis Webbing and ECM batteries anchored at your POS. They work automatically in conjunction with your Control Towers security settings.

[1.2.10] Turret Batteries & 1.2.11 Missile batteries The difference between a dangerous POS and a lethal one is all in its ability to spank anyone that comes close. POS weaponry is very very mean and go right up to the XL size. Projectile Turret batteries for instance have a 85x damage modifier and can hit up to 400km on a Minmatar Tower. Small POS turrets take MEDIUM ammo. Medium POS turrets take LARGE ammo. XL POS Turrets take XL ammo which will require you to buy a blueprint for.

Turret batteries have limited cargo space for you to put ammo into. You may mix ammo type but not ammo size. Lasers are a little different, the laser crystals when used receives damage and need to be eventually replaced.

[1.4] Skills Needed You need the anchoring skill to be able to anchor different POS structures, you will also need the Starbase role from your corporation to manage the control tower operate structures like the Refinery and Ship Maintenance Array.

2. Ice Mining

[2.1] What, where and Why?

With Exodus patch came Ice Fields. Ice fields are similar to asteroid belts, but instead of containing asteroids they contain [ice ore](#) which you can only mine by using a Mining Barge fitted with Ice Harvesters. Ice belts are dotted around empire and 0.0 space. The ice in 0.0 space belts are rarer but have ice ores with more variation of content.

[2.2] Types of Ice

Ice Ore is race based, certain ores will only give you the Isotopes needed to run a specific Control Tower. E.g. [Glacial Mass](#) contains Hydrogen Isotopes which are needed to fuel a Minmatar Control Tower. [White Glaze](#) contains Nitrogen Isotopes, which is needed to fuel a Caldari Control Tower. These specific ores are generally found in their respective factions space. So you will only find White Glaze in Caldari regions or 0.0 regions with Caldari npc's such as the Guristas.

What is common to all ice ore is that they all give Liquid Ozone, Heavy Water and Strontium Clathrates -which are also essential fuels for your POS. The amount they give of each varies on the ore, some ice ores will exclusively give more of one product than the others.

[2.3] Mining Barges

As stated earlier, you can only mine Ice with a [Mining Barge](#). Ice mining takes a very long time and each unit mined is 1000m³ in volume. You reprocess Ice as you would normal ore in a station. Alternatively you can process ice in your POS's mobile refinery and get 100% yield.

[2.4] Skills needed

To ice mine you will need: A Mining Barge (Industry V, Science IV, Mining IV, Astrogeology III) Ice Harvesters (Mining IV, Ice Harvesting I) Ice Harvesting Skill: (Mining IV)

To refine Ice you need: Ice Processing Skill (Refinery Efficiency V, Refining V, industry I, Hydromagnetic Physics IV, Science V, Engineering V)

3. Moon Surveying

[3.1] Scanning Moons

Before you can harvest a moon it probably pays to find out what it produces first. This can be achieved by Moon Surveying. Moon Surveying is an activity which involves flying to a moon and launching a probe into it to find what Raw Materials it contains.

You can probe any moon in 0.3 Security space and below.

WARNING: Warping to a moon which already has someones POS residing there will likely result in a swift and pretty damn quick episode of wtfpwned. A POS turret will pop your industrial in one shot.

[3.1.1] What do you need? -An Industrial (or any ship with lots of CPU and cargo space) -Moon Probe Launcher -Moon probes

[3.1.2] Fitting your ship for Moon Surveying. I advise to use an Industrial. Reason being, Moon probe Launchers take an enormous amount of CPU and the moon probes themselves are 100m3 in volume each.

Fit your favourite Industrial as follows;

Hi slot: Moon Probe Launcher (only one needed) Hi slot: Cloaking Device (to hide if you are being chased whilst surveying) Mid Slot: Afterburner or Microwarpdrive, Low Slots: Nanofibre Modules: To improve your agility, speed and to help you line up with a moon quicker.

A single system will have anything from 5 moons to about 50, so you will need a moon probe for each moon you want to survey.

[3.2] Moon probes:

A moon probe works similar to a scanner probe, you launch it and it returns results.

Quest survey probe I: Takes 40 minutes to scan a moon.

Discovery survey probe I: Takes 10 minutes to scan a moon.

Gaze survey probe I: Takes 5 Minutes to scan a moon.

The above probes all do the same job but vary in time it takes to scan. The Probes that scan the quickest are more expensive and require more skills to use.

How to survey

Now you have your fitted industrial and probes, fly to the **planet** of the moon you want to scan. Note I said **planet** and not moon. The reason for this is if you fly directly to a moon, and it happens to have a POS there, you will get wtfpwned and the owner will get a nice little evemail telling him his pos just pwned you. Worse still you don't want to carelessly loose 20 million isk worth of probes.

So do NOT warp straight to a moon.

When you arrive at the planet, open your scanner and do a 360 degree scan at max km range. Sort the results and look carefully down the list. What you are looking for is a **Control Tower**. If you see one on the list then you know one of the moons has a Control Tower, therefore it's likely to have defences that will gank you if you warp to it.

The best and fastest way to find if there is a POS at a moon without going there is as follows:

1. Create a midspace safespot.
2. Bookmark the safespot.
3. Eject from your industrial (Note: When you eject, your skills won't apply for your ship's cargo bonus anymore so your probes may be jettisoned in a can next to you).

Warp to each moon at 60km in your pod. POS defences do not pod people so you are safe, however players do so don't hang around! As soon as you find which moon the POS is at, make a note so you can avoid it.

Warp back to your safespot bookmark and jump back into your industrial.

Due to the lengthy process of moon surveying you should really try to do it when you have no one in the system. Many corporations have big interests in particular systems and moons, and will hunt you down if they find you in there trying to eat their cake.

[3.3] Surveying:

Now that it's all clear, warp to the Moon of your choice at 15km. Try to do your surveying in chronological order, going down the list numerically.

1. Fly to moon: On arrival you may not see the moon as moons vary in size and shade (but you will be 5km from it). Go to your overview settings and check to show moons. Now simply click the moon on the overview to highlight it.
2. Aligning to moon: This is the hardest part. Align yourself as central to the moon as possible, this will be difficult because double clicking in the middle of the moon will highlight it instead of making you approach it, also some moons are very small. Double click on the moon but just slightly off the center. Activating your mwd helps you get a good speed on approach which helps you judge your line up to the moon.
3. Fire probe: When you are 100% sure you are aligned and that the probe when launched will hit the moon then launch the probe by clicking the Probe Launcher Module. The probe will shoot out the front of your ship with a whooosh and head in a straight line towards the moon. If you didn't align properly, the probe will miss the moon (probe communication failed).

Once you have launched the probe, open your scanner. It will show the probe's countdown time until it returns results. You will also notice there is a new tab in the scanner window called 'Moon Analysis', your results flash in there once the timer hits 0.

You can move on to the next moon whilst the probe is en route to the moon, you do not have to wait until the probe hits it and you do not have to wait until a scan is finished, just keep your scanner window open and continue your surveying.

WARNING: If you leave the system, change ship, or dock, your scan results will be lost. You have to stay in the system to receive the results.

This is where the cloaking device on your industrial comes in handy. At the end when you are still waiting for the last few results, warp to a safespot and cloak. By cloaking others looking for you with scan probes will not find you and you can peacefully go afk or jot down the results on paper.

Ok, so all scans are now completed and the Moon analysis tab is flashing furiously. Click it and examine what is there. If a moon does not have any materials you will receive a pop up message after the scan telling you so.

The results are listed by planet and moon. Clicking one will expand it to show what raw materials can be harvested from that particular moon. Next to the name of the raw material you have the abundance which refers to the batch quantity that could potentially be harvested. Abundances range from 1 to 4.

It's now up to you to decide if the raw materials found at a specific moon are worth harvesting.

Remember a POS is not a toy, they require a lot of maintenance and operation. The moon you choose has to be profitable enough to make it all worth it unless you will be covering the cost by 0.0 mining/NPC hunting or corp donations. Also, take into consideration your location, if you are in hostile space ask yourself how easy will it be to get fuel here?

3.4 Skills Needed

Gaze survey probe I: Astrometrics V, Survey V, Science III, Electronics I
Discovery survey probe I: Astrometrics III, Survey III, Science III,
Electronics I
Quest survey probe I: Astrometrics III, Survey III, Science III, Electronics I

4. Moon Mining

4.1 What is it?

Moon-mining involves using your POS to extract Raw Materials from a moon. The Moon Harvesting Array structure will mine the moon your POS is anchored at. This is on provision that the moon has materials. To find if you have a suitable moon, you have to do some Moon Surveying (previous section).

The materials you harvest can be sold to other players or developed into more complex materials eventually possibly allowing the construction of a T2 component.

4.2 What do I need to moon mine?

You cannot moon mine with your ship or mining barge, moon mining can only be achieved by using a Moon Harvesting Array structure at your POS.

You will at least need: Moon Harvesting Array: Needed to extract materials from a moon.

Silo: Needed to store Moon materials

You may need a Coupling Array. You may need a Reactor if you plan to process the Materials.

Where can I moon mine?

Moons in 0.3 security rated systems and below all have the potential of having materials to mine.

4.3 Reaction blueprints

Reaction blueprints are much like a blueprint used for manufacturing ships or modules. When installed into a Reactor Array structure, it tells the reactor what type of material to create based on the materials being fed into it. In most cases your reactor will be connected directly to your moon harvesters, so you will need to get a Reaction Blueprint that matches the materials produced by your moon. Without a Reaction blueprint, your Reactor Array will not work. You must ensure you use the right Reaction Blueprint or your reactor will not be able to process your moon materials into something better.

Why do I need to create reactions?

There are several stages to moon material processing.

Raw Materials -> Processed Materials -> Advanced Materials

To get from one material state to the next you need to put the materials into a Reactor Array and insert the right Reaction Blueprint to create the next level of a material. There are many types of materials and many types of Reactions but the 3 groups remain the same, think of the above 3 like this, **Wheat -> Flour -> Bread**

You can sell the Wheat, but it can also be turned into Flour. You can sell the Flour but it can also be turned into Bread -which is obviously the most wanted.

There are two types of Reaction Blueprint:

Simple Reactions Simple Reaction blueprints are used as the first stage of processing products from a moon. They are used to turn Raw Materials into Processed Materials. (Wheat -> Flour)

Raw materials -> [Simple reaction blueprint] -> Processed Materials.

Complex Reactions Complex Reaction blueprints are used as the second stage of processing products from a moon. They are used to turn Processed Materials into Advanced Materials.

Processed Materials -> [Complex reaction blueprint] -> Advanced Materials.

Installing A Reaction Blueprint in your Reactor

- Right-click on your Reactor Array and click 'Access Resources'
- Drag and Drop the Reaction blueprint in that corresponds with the materials produced by your moon

You will then need to configure the process via your Control Tower before onlining the structure..

4.4 Configuration

Below you will find out about the process of making a construction component (Tech 2 part) from moon mining.

Your Moon Harvesting Array mines the moon and stores the contents in your Silo. All of this must be configured via your Control Tower prior to onlining you Moon Harvesting Arrays.

Once you have surveyed a good moon, you can begin mining it with your Moon Harvester Arrays. Moons all vary in material content and abundance of content but never run out of the material they provide.

NOTE: Changing Harvester and Silo type can only be done while the Moon Harvesting Array and Silo structures are offline.

To configure your POS for Moon harvesting:

Configure Your Harvesters · Open your Control Tower's management window · Click the 'Production' tab · Click 'Change type' for your Moon Harvester · Select one of the materials produced by your moon · Click 'Apply' on the management window

The next step is change the type for the Silo to tell it to store the same thing that you are harvesting.

Click the 'change type' button on the Silo. You can now select a Raw material you wish to be stored inside it. You can only select one type of material to store in a silo at a time. Please be aware that the drop down list for the Moon Harvesting Array and Silo differ slightly.

Next you need to show the POS how you want the process flow to be. Drag the output of the Harvester Array (which should now be a raw material icon) into the Input of your Silo.

Click Apply to save. Now online your silo, then harvester(s).

Your Harvester Array will begin warming up one cycle then will start harvesting.

[4.5] Stage 1: Raw Materials

Ok, we know that once harvested, moons will produce Raw materials, but what exactly are Raw Materials? Well, there are two types of Raw Material, these are **Gases** and **Metals**. Gases are common, Metals are rarer, but both are essential if you plan to process your materials.

Gases: Atmospheric Gases, Evaporite, Hydrocarbons, Silicates. Metals: Cadmium, Caesium, Chromium, Cobalt, Dysprosium, Hafnium, Mercury, Neodymium, Platinum, Promethium, Scandium, Technetium, Thulium, Titanium, Tungsten, Vanadium.

A Moon Harvesting Array can mine 100 units of whichever raw material your moon has. So if your moon produces Atmospheric Gases and Tungsten, you can mine 100 of either but not both at the same time unless you have two Moon Harvesting Arrays (one mining each).

Your Moon Harvesting Arrays will mine then deposit your raw materials into the silo you specified during configuration. This will continue until you stop the process or until your Silo is full. You will need to offline the Silo before you can empty it, this is where a Coupling Array comes in handy.

To avoid missing a moon cycle you can anchor a Coupling array. In the production configuration you would simply pipe the output from your Harvester into the input of the Coupling Array, then pipe the output of the Coupling into the input of your Silo. The Coupling Array will temporarily hold any materials that come out whilst you are emptying your silo.

You now have the option to either sell your Raw materials or process them into something more complex: Processed Materials.

[4.6] Stage 2: Processed Materials

So you've decided to turn your newly acquired Raw Materials into a more useful material (Wheat into Flour). You do this by combining them together in a Reactor Array to create the Processed Material.

It is at this stage of Moon Mining where you first use the Reactor Array.

The Reactor Array mixes various materials (can be raw or Processed) together to produce the next more complex material in the process. Reactor Arrays need a Reaction Blueprint to determine which materials to produce. Think of the Blueprint like a ship blueprint where you need Tritanium and Mexallon, but instead of minerals think Raw materials (Titanium, Silicates etc.)

NOTE: Not all materials will create a reaction. You need the correct materials for the Reaction blueprint.

Setting up the Reactor is always done before onlineing it. You insert the correct Reaction Blueprint and the Reactor will automatically prepare itself and detect if you have the two or more materials it needs for the Reaction. The Reactor will look in your Silos and can also be fed directly from your Harvesters. The Reactor is configured on the Production tab of your Control Tower, drag the output of the Reactor into a spare Silo. If all is done correctly the Reactor Array will start up.

The Raw materials will flow out from your Harvester Arrays into your Silos. The Reactor then takes the raw materials it needs and mixes them together according to which Reaction Blueprint you have placed into it. If done correctly, the output in your spare silo will be a Processed Material. You may have to buy other Raw Materials your moon does not produce and place them into spare silos to make some reactions.

Processed Materials are mixtures of gases and solids, these are: Caesium Cadmide, Carbon polymers, Ceramic Powder, Crystallite Alloy, Dysporite, Fernite Alloy, Ferrofluid, Fluxed Condensates, , Hexite, Hyperflurite, Neo Mercurite, Platinum Technite, Prometium, Rolled Tungsten Alloy, Silicon Diborite, Solerium, Sulfuric Acid, Titanium Chromide, Vanadium Hafnite.

Once you have a Processed Material you can either sell it or process it into something even more complex: Advanced Materials.

[4.7] Stage 3: Advanced Materials

Similar to the previous stage you can now change your Processed Materials into Advanced Materials (the ingredients for Tech 2 components). Advanced Materials require two or more Processed Materials to make (remember processed materials are made up of a many different raw materials). For the Processed Materials you need but don't have, you can buy or trade them from another corporation and store them in Silos for the next level reaction.

Again you need a Reaction Blueprint to make a specific Advanced material. This time you will need a Complex Reaction Blueprint. You will need to offline the Reactor in order to change Reaction Blueprint. Ensure your Silo which is being used as the output of your reactor is emptied of any previous material.

After the reaction of Processed Materials, the output in your designated Silo will be an Advanced Material. Just like the previous stage, only certain Processed materials together with the right Reaction Blueprint will make something.

[4.8] Stage 4: Tech 2 Component

You now have some Advanced Materials yay!!! Advanced Materials are the basic ingredients required to build tech 2 components. (\$\$\$!!)

You will now need to buy a Tech 2 component Blueprint from market. (E.g. Magpulse Thruster blueprint).

Now, simply take the T2 component blueprint to a normal station factory and put your advanced materials in your hanger. Check the ingredients, you will find your Advanced Materials are probably only 1/3 the ingredients needed to build the component.

You will have to trade or buy the missing Advanced Materials that make up the component from other corporations that also create reactions.

For breakdowns of Raw Materials (Simple Reaction) and Processed Materials (Complex Reaction). See this [LINK](#).

[4.9] Teamwork

As you can see, there is NO WAY you can build a T2 part from start to finish with one POS. You will simply not have all the materials needed throughout each stage to do so. You will need multiple POS's to obtain everything you need and process them. Bear in mind CT's have limited powergrid and cpu meaning there are only so many structures you can have at your POS.

There is also a huge diversity of materials needed for it all to be possible to do in one go. But then again this very much depends on your moon. If you find a uber moon which has the right materials you can do a lot on your own. Many larger corporations will run 2 or 3 POS's to achieve this feat and provide a end product, but always take into consideration fuel, time, location and costs -it may be better to work with others.

The most efficient and cost effective way of T2 production is working with one or more dedicated industrial partner corporations. Based on what they produce, you produce the other half. For instance, if you both make Processed Materials, combined them with your partner to make a specific Advanced material then split the quantity or profits between yourselves.

Alternatively, you don't have to go all the way to Tech 2 components, you can pick what stage you want to comfortably work at and do your best at it. If it's just you and a couple of friends in your corp, then you can run a Small Control Tower and harvest Raw materials to sell onto to others. If you are a medium sized corp and have found a good moon, you could run Simple Reactions and produce Processed materials to Sell. If you are a large corporation and have several POS's, you could go all the way to a shiny and very much sought after Tech 2 Component.

This guide was written by ISD Zhuge Liang and is the sole property of [CCP Games](#). Original thread can be found [here](#).

This PDF version has been slightly modified from the forum post by Braaage (and is hosted on <http://www.eve-guides.com/>) to bring it up to date and correct minor mistakes.